

3-15-1967

## Interview with William Sanders

William Sanders

Follow this and additional works at: [http://ecommons.udayton.edu/archives\\_wrightkett\\_oh](http://ecommons.udayton.edu/archives_wrightkett_oh)

---

### eCommons Citation

Sanders, William, "Interview with William Sanders" (1967). *Wright Brothers - Charles F. Kettering Oral History Project*. Paper 5.  
[http://ecommons.udayton.edu/archives\\_wrightkett\\_oh/5](http://ecommons.udayton.edu/archives_wrightkett_oh/5)

This Transcript is brought to you for free and open access by the University Archives and Special Collections at eCommons. It has been accepted for inclusion in Wright Brothers - Charles F. Kettering Oral History Project by an authorized administrator of eCommons. For more information, please contact [frice1@udayton.edu](mailto:frice1@udayton.edu), [mschlange1@udayton.edu](mailto:mschlange1@udayton.edu).

WRIGHT BROTHERS - CHARLES F. KETTERING

ORAL HISTORY PROJECT

UNIVERSITY OF DAYTON

Project Director, 1967: Dr. Wilfred S. Steiner  
Project Director, 1975-76: Johannah Sherrer

Editor: Kathy Kelto

WILLIAM SANDERS

Interviewed by

Susan Bennet

on

March 15, 1967

SB A tape for the Wright brother's collection. Today's March what?

WS Fifteenth.

SB March fifteenth, 1967. I'm talking with Mr. William Sanders, or Sanders?

WS Sanders.

SB Sanders. And Mr. Sanders is going to talk about how he knew the Wrights originally and you're working on a book, aren't you?

WS Yes, I'm working on a book that was really the frontier of aviation. What it amounts to is Dayton's contribution to aviation from the Wrights right on through World War II.

SB Oh, is that so? That's interesting. Is it, oh, it's just starting with the Wrights and then from from the point of view of people who lived in Dayton or how people from Dayton or what?

WS No, it's a case of following the story from the Wright brothers right on through the development of ten years of struggle before World War I and then the establishment of, of aviation pool by the government and bringing of McCook Field to Dayton, or the establishing of McCook Field in Dayton. And then subsequently the Dayton-Wright Airplane Company and all that went on out there. And moving on from the developments that followed, World War I, and what we did in the main in World War II. So Dayton was pivotal in all that.

SB I see, And you were here at the time of that?

WS Well, I was here from '37 on. I was not a Daytonian when the original work was done. And Orville had been dead some twenty five years before I came to Dayton.

SB Wilbur, Wilbur.

WS Or, Wilbur, yes pardon me, Wilbur. Who died in 1912. So he had been gone twenty-five years before I knew much about the Wrights first-hand.

SB How, where did you first meet Orville, do you remember?

WS In connection with my work as a newsman on the Dayton Daily News. I went out to his laboratory to talk with him. And had a very good interview and then two or three elapsed and I went out again.

SB The first interview, how did he react when you, when you said you were a newspaper man?

WS Well, he knew that before I went out there. And he was very gracious and kind. Somewhat stiff, it seemed to me that he had great difficulty in loosening up. But he was courteous and...

SV Had the interview been arranged?

WS ...not the kind to be talkative.

SB Had the interview been arranged? I mean he knew that you what you were coming?

WS Oh, yes, that's right. He knew I was going to interview for him for the Dayton Daily News, and he was perfectly willing to answer questions, but he was not inclined to be very talkative. He'd answer your question.

SB What did you question him about. What were the reasons...

WS Oh, heavens I don't know now. Been so many years ago, I don't remember what I was talking with him about. But I recall that I was with him for about a half an hour. And carried away an impression of him, as being a taut, tense man. I, I was quite surprised to see how wound up he seemed to be. And by being wound up, I'm thinking of a watch, you've wound it about as far as it will go. I wondered at the time, how does this fellow ever relax, how does he loosen up? If something should happen now that would be very irritating, what would he do? You know what Kettering would do. For instance when the days, when Kettering was the engineering consultant at the old Dayton-Wright

Airplane Company, he became constantly annoyed by the changes that were sent to Dayton from Washington. Change this, change that, change the other, and naturally every time they made a change that delayed the production program, and they weren't getting anywhere. They wanted to get planes to roll off the production lines, and these changes were coming through. Well, it wore Kettering's nerves down to a raw edge, and finally one day to let off steam, he went into the chief engineer's office, Mr. Schoonmaker they called him. Everybody knew him as Schoony I guess. And he said, "God damn it Schoony, if those sons-of-bitches in Washington don't stop sending down these changes we'll never get a plane produced." Turned on his heel and went out. Whereupon Schoony's secretary said, "isn't he grand?"

(laughter)

WS Wright couldn't do that. Kettering could go in, explode, and go on his way. But you can't, you can't imagine Orville Wright doing a thing <sup>i</sup>like that. He, his standards just wouldn't let him do it.

SB Well, was it his standard or standards, do you think that's from being a preacher's son?

WS Well, that was part of it.

SB Or their background?

WS That was his training, his background, yes. I feel sure that that was a determining factor. He had been taught that he was to hold his temper. And usually he did. But even if he did let go, there was never any profanity or any loud mouth...

SB Well, how did he let go, how did he let go?

WS I don't know. I have often wondered how he did.

SB I haven't found, I haven't found anybody who saw him mad. Of the people who worked with him.



WS Well, there were a few who worked with him. For example they had, he had a plane out at what they called South Field. It was Mr. Deeds, Colonel Deeds's field. Now a housing project. But in those days, it was flying field for Dayton-Wright Field, loaned of course by Colonel Deeds. And South Field was the experimental center and Orville Wright as a consulting engineer was there a great deal and he had a plane there. The field surrounding this hangar was a pasture and Deeds had some cows in there and they roamed around the pasture. And one night the caretaker of the building left the door to the Wright hangar ajar. And during the night the cows crowded in there and ate all the fabric off the wings. You know they put on linen or, I guess they did work out of muslin fabric later and then it was doped and they liked that dope that was on the wings. So they made a shambles out of that plane. Trampling around of course, and breaking parts. And when Orville Wright came in there in the morning and found out what had happened. He really blew his top, so a man by the name of Moorehouse, who was an engine man, and witnessed it and told me. But still it, it wasn't the kind of blow up that, for instance, you had out of a Kettering man; this was one of these very nice blow ups. It was the kind that only a Wright could indulge in. And that was my impression of Orville, as I observed him around town, observed him at meetings, and I observed him at a great many meetings. And my second interview the same way. I just felt that here's a fellow that's wound up tight. And if I could just loosen him up. It would have been I think more pleasant to be around him.

SB He was hard to talk to from anyone I guess.

WS I beg pardon?

SB He was just hard to talk to.

WS Oh, yes, He, he, I suppose there were some people who were close to him, maybe

Colonel Deeds, a few people who knew him intimately and caught him at times when he was inclined to be gabby but those were very few, believe me. He was not the talkative kind. I guess you may...

SB Excuse me, let me stop here a minute, make, I always want to check to make sure that I'm doing everything right.

(break in tape)

SB Okay, now we can start again.

WS You've, probably have heard the story about Wilbur being asked to speak during his sojourn in France. They wanted to put him on at some luncheon or dinner and he refused. He said that there was only one bird that he knew that could talk, namely the parrot, and it didn't fly very far.

SB Oh, is that so? Now, I've never heard that story.

WS You haven't heard that. Well that's not just heresay, that's a true story. That the only bird that he knew that could talk was a parrot and it didn't fly very far. So they weren't the talkative kind. I think for reasons that must be perfectly obvious because in the early days of their work they were looked on with contempt by a lot of people, regarded them as manicured crackpots. And when they did finally achieve their goal, they they weren't disposed to talk about it very much.

SB It was interesting to me that they did get some, not financial backing, but they did get oh, some encouragement from the banker, Bill Knight, and from Mr. Huffman, and the hardware man, I mean there were some responsible people that knew him, that...

WS Oh yes, if it hadn't been for a man like Mr. Huffman, they would have had much more difficulty in really learning to manage that flying machine. Because after all they didn't learn to fly that thing at Kitty Hawk, they just

proved that they were right and that the machine could fly as they had calculated, but where they really learned to control it and to fly it and manipulate it was out there on the Torrence Huffman farm, which is now a part of the Wright-Patterson Air Force Base. Few people like that, once they had achieved their goal, helped them out. But in the early days, the city paid little attention to them apparently, and I think they resented it. Perhaps their resentment stemmed from the fact that the public looked upon them as a couple of bicycle mechanics who had stumbled on to a great secret. Well, nothing could be farther from the truth. Sure they were bicycle mechanics when they started, but they were men of intellectual capacity, and when the world awakened to what had happened, these two bicycle mechanics had become scientists and, in a sense, engineers. In any event they, although they weren't trained as scientists and engineers, they applied scientific principles in what they were doing and they were competent in the engineering end of it. They would have to be competent, in the light of the machinery they had. For instance when they wanted to build an engine, they didn't have the machinery that an engine builder should have; you don't start to build an engine with a lathe and a drill press. But as Mr. Kettering said, they didn't know that they didn't have the right kind of machinery so they went ahead and did it, with the help of Charlie Taylor of course, the mechanic. But they were tremendous figures in that they were able to work together and sift through the material that they found, discover whether it was right or wrong and if it was wrong, as in the case of Langley's pressure tables, to set up their own wind tunnel and make their own experiments and from those experiments prepare their own tables and then build their glider accordingly, and it proved out. Langley was wrong and they were right. But they had gone about it in an entirely scientific manner. So I think it's only fair to



say that they were both scientists and engineers in the sense that they could apply both science and engineering to what they were doing. And did. And yet the people kept thinking of them in terms of a couple of bicycle mechanics. And I had a feeling all the time that down deep in Orville there was a resentment that carried over that feeling that the public just looked upon them as a couple of bicycle mechanics.

SB They wanted the esteem. They didn't seem to, he he never seemed to go out in crowds very much. He never seemed to want very much applause or acclamation. I mean he didn't go out and seek it.

WS No. No, he wasn't a rah rah boy in any sense of the word. For years they had worked together, worked together more or less in isolation and then Wilbur's death, which Orville seemed to feel was due in part to the stress and strain of their litigation with Glenn Curtiss.

SB Did he ever express that?

WS Did he what?

SB That feeling? Ever express that feeling that Wilbur's death was...?

WS Oh, yes. Yes, he did. That Wilbur's death was due in part...

SB I had a right thought, that I'm interested where did you find that?

WS I can't tell you that, I've got it down somewhere. But he felt that...

SB Bitterness.

WS ...constant running to Buffalo and points east in connection with that litigation wore Wilbur down, and that was when this thing hit him, this typhoid, he wasn't able to throw it off. After Wilbur's death and the team of course was broken up and Orville couldn't sharpen his ideas on the hone of Wilbur's mind, and I think he more and more withdrew. And I'm inclined to feel that way about it, because when his sister Katharine was married, he resented it very much. He apparently felt well now, I'm alone, she's the

last.

SB Did he ever, did he ever express that to anyone that you know of?

WS About his sister?

SB Yes.

WS Oh, no, it was generally known, I don't know whether he ever expressed it to anyone here in Dayton or not. But there were plenty of people who know about that.

SB I know, I've heard, I've heard that and I just wondered.

WS He was very much put out at her marrying and leaving Hawthorn Hill out there. She moved to, I believe it was Missouri, Kansas or Missouri; her husband was a newspaperman. And I think it's fair to say that that really burned him. And I presume it was just that feeling.

SB Did you ever run across any romantic interests that he had in any way?

WS No, I haven't run across any...

SB Any rumors?

WS ...and I've often wondered whether it wouldn't have been a good thing if he had. But I've never been able to find any. The only interest he seems to have had in any girl was his sister Katharine.

SB Well, I have, I, now of course this is all heresay, which naturally most of this is anyway, that he was interested at one time in Miss Alice Hall, of the Hall sisters who lived, they lived downtown and they lived out in Oakwood.

WS That I don't know, I never heard any story of his being interested in girls.

SB I wondered how he escaped. Here he was this prosperous bachelor you know.  
(laughter) It was probably hard to avoid them.

WS Well, if he were as seemingly indifferent to them as he was to most people, that isn't hard to understand.

SB When your second interview with him, was it something about aviation also, do you remember?

WS Yes, it was some anniversary but my memory of that centers very largely in the radical political views that he expressed that morning. In fact he made my eyes pop by what he was saying about the American economic system.

SB Well, let's hear that.

WS I don't know why it is but so often men who achieve handsomely in one area, get to thinking that therefore they are more or less authorities in other areas, for example, Henry Ford back in World War I, started what he called a peace plan. He was going to get the boys out of the trenches in France by Christmas. I don't know whether you ever heard about that peace ship or not, but anyway Ford had been able to produce an automobile that was fairly efficient and sold at a low price, and he was a great industrial hero, so therefore he must know something about international politics and how to bring peace to the world. And he organized that peace ship and they started for Europe, and before they get to Europe they had so much fighting going on among themselves, they had to call the whole thing off and turned around and come back home. The world is full of examples of that, where people who achieve handsomely in one field seem to get the idea or the public gets the idea therefore they're authorities in any field. Now whether Orville was tired with that I don't know, but in any event, on this particular day, he started sounding off about the capitalistic system. Well, it was the more singular, from my slant, because he himself was deeply involved in a capitalistic system, practically all his fortune was in bonds or in stocks or in something of that sort. And his income was coming from that kind of thing, and yet on this particular day he was letting fly a lot of economic philosophy that I couldn't buy at all. And I'm sure the American people wouldn't buy, or



wouldn't buy it.

SB You mean he was criticizing the capitalistic. (unintelligible)

WS Oh, sure, in fact ~~it~~<sup>it</sup> was quite socialistic. It was so socialistic that today we probably would think of it as communist. And I thought uh-oh, now I have a AP story that will go from coast to coast. And it would have had I written it. But I walked back to the newsroom from his laboratory and the more I thought of it, and the nearer I got to my desk, the less inclined I was to write it. Because I couldn't see that that would do Dayton any good, or do him any good, or do the country any good, and here's an old man now and he's popping off and why should I, just to get my by-line from coast to coast, why should I write such a story. Even though he said, and he said it with, it was off the record, but it was not off the record; I had the privilege to do anything I wanted to with it.

SB That's unusual. That doesn't sound like him, because, do you remember the express purpose that you've gone and talked to him. Something about an anniversary?

WS Well, I don't recall what it was. It was something on aviation though.

SB On aviation.

WS And he got, he was...

SB Well was he, was he actually proposing the Russian system or the English system?

WS No, he wasn't proposing anything he was just criticizing.

SB He was criticizing the present government, in other words.

WS That's, well, and our whole economic system. Not so much the government, but the idea of capitalism. Which he was thinking, well, in this was that morning, that it wasn't fair for people to make money off money. That is off investments.



SB Oh, I see. Unearned income.

WS Yes, he felt that morning, that unless a man made some contribution in the process of the economy, he didn't have a right to the emoluments. I couldn't help but ask myself, well how did you get this way, because you yourself are in that kind of fix. But I went back to the newsroom and just refused in my own mind to write such a story because I felt it wasn't the thing to do. And that maybe he didn't have a good breakfast, or in any event why should I write a story like that concerning Orville Wright.

SB Do you remember what brought the subject up?

WS No, I don't. I just recall how radical it was. But in my recent digging on the Wrights, I came across a similar story, though not quite so radical, that he had given to a colleague of mine, oh it must have been four or five years before.

SB Is that so.

WS.. ...and it was the same kind of thing. And this colleague of mine had run it, and it had been put on the AP and went from coast to coast. I didn't know that at the time.

SB Oh, I see. Do you have that? I would love to read that story.

WS Well, I don't know whether I have it or not. I probably do, but if I don't have the reference to it that I'll be able to give you. Because you can look it up in.

SB That's that only time, now that's the first time since I've been doing this, that I have found anyone who had, who had ever talked politics with him.

WS Oh, yes?

SB That he didn't, that that was the only time that I have heard anyone in, in knowing him, heard him express any interest in anything besides the airplane.

WS That's right. More recently I asked his niece, Mrs. Miller, whether she had ever heard him sound off in that fashion, about government and politics, and

she said yes, he used to do it all the time.

SB Is that so?

WS So, this wasn't something new, this wasn't the first time he had done that.

SB Well, now that does seem odd. Of course, he was particularly, he was particularly griped about I guess what you call unearned increments, but did he feel that every man should receive only according to his needs; was that his idea, or was he just griping about living off income?

WS It was that. He didn't say anything about people living according to, or drawing from society according to their needs, and contributing according to it, according to their talents. But he was just letting go a big blast on the west's economic philosophy, and that morning he certainly wasn't in favor of it.

SB I wonder if he was a contributor to the, let's say the '30, '37 to any way the Roosevelt plans.

WS That I don't know. I do not know whether he was in sympathy with any particular parties. And he'd be kicking this around in his mind apparently for a long time, and I hit him just at the moment when he was ready to let it go and let it go. I could do with it what I wanted to.

SB Do you think he wanted you to, that he actually wanted you to print it?

WS Well, I don't know why not. Because he knew I was a newspaper man and he knew that I was there to get a story. And that became the dominant thing. So I would assume that he would have been pleased to have me write it. But I wasn't of a mind to do it, and I still think I was right. Perhaps from the standpoint of a newspaper, no, let, let fly. But I was thinking in terms of the community, and I was thinking particularly in terms of him. Because I'd never heard him talk like that. And I wasn't sure that that really represented his best thinking. And I just couldn't see any reason from my

going out and advertising his predicament at that particular time. And so I didn't. Wrote some perfunctory story, and let it go. Never said anything to anybody about it.

SB What other interest did he have, do you know, besides the airplane?

WS Well, he liked to make toys. He apparently liked children, and so far as I have been able to find out, children liked him. I think there was a kind of a Pied Piper element in him. I don't know whether it was in Wilbur or not, but I believe there was in Orville. The kids used to hang around that old bicycle shop over there. Now of course it wasn't all just curiosity, because there were pieces of spruce that were no longer usable and the kids liked to get those pieces of spruce to make kites. So it wasn't just entirely a personal matter, but the kids wouldn't hang around a shop to pick up a few sticks if they disliked the person who was running the shop. And I think maybe that Pied Piper element was best illustrated by a young college graduate by the name of James Clifford Turpin, T-U-R-P-I-N. He was known locally and all through his life as Cliff Turpin; he was a Dayton boy. He went to Purdue University and was graduated with the class of 1908 as a mechanical engineer. And came back to Dayton and entered his father's gas engine plant. It was called New Era Gas Engine Plant on West Third Street. And...

SB Is he still here??

WS No, well I'll come to that in just a minute. Turpin was a draftsman at the plant, when Orville Wright turned up there one day to see what he could learn about engine valves. He thought maybe that gas engine plant could teach him something about how to keep engine valves cool.

SB Now about what time, about when was this?

WS Oh, this must have been around 1910.



(break in tape)

(end of side one)

(start of side two)

WS And just a couple of years after young Turpin had, had come back to Dayton from Purdue, Orville met this youngster, offered him a job as an aviator if he'd learn to fly and he dropped everything and followed him. Now there must have been something particularly attractive of him to young people. A boy wouldn't leave his family firm and a job that was reasonably secure and was, I presume, a satisfactory future ahead of him, just drop all that and go with a relative stranger, and yet he did. Now what, what went on between their reaching a decision, I have no way of knowing. But Turpin very quickly learned to fly and became one of the exhibition flyers for the Wrights. I guess you know about that phase of their work. That the exhibition teams would turn up at county fairs. There would be a flight in the morning and a flight in the afternoon. And then between flights the airplane would be put in a big tent and admission paid by anybody who wanted to get a close up look at the machine. And Turpin went right across the country on those exhibition flights, and he was in Seattle, Washington when, and flying there at a county fair. When in the afternoon he was about to take off, and some foolish individual ran across or started to run across in the path of the plane as he was taking off. So in order to avoid hitting this Washingtonian he swerved the plane and crashed it into the abutment and mashed the plane badly but didn't hurt him much. Bruised him a little but no serious injury. But scared the daylights out of him. And then that afternoon, later, he received a telegram that a chap by the name of Parmelee, another Wright flyer and I think it was Tacoma, had been killed in a flight. Turpin quit then and there. He had some three thousand hours in the air. But he quit flying; that



was around 1912. And I saw him on Cape Cod, about six months before his death, and he told me that he had not been in an airplane of any kind since that time, and he never intended to go into one. I said you mean you've never flown in one of these lovely jets? No. And I'm not going to fly, he said, if I get in one of those things, it would crash sure as Hell. And I'm not going up again. And yet here was a fellow who obviously and manifestly proud of what he had accomplished, and all the awards that he had been able to win, and his license and all the rest of it. And yet he hadn't flown for all those years, but it was that quality that I speak of. That Pied Piper quality that took him right out of his father's plan to follow Orville Wright out to Huffman prairie where he learned to fly. And apparently learned it very well, very quickly.

SB That's interesting. In that phase, did they make much money at that exhibition business. Pick up any money?

WS Oh, no. They were paid a flat sum and whenever they flew there was an extra amount, but the...

SB How about the company bill?

WS ...bulk of it came back to the company. The Wright Airplane Company.

SB Did, did you ever find where, whether the company itself made much money during that period?

WS Well, they made enough money the first year to carry a ten percent dividend.

SB Well, that's pretty good.

WS So for a first year business that wasn't bad.

SB No, that's pretty good.

WS And if they had continued, I presume they could have developed.

SB Who, who held the stock in that original company?

WS New York bankers.

SB Oh, that was the, the Flint, no not the Flint, the Vanderbilt and that group.

WS That group. A group of New York investors, who...

SB That amazed me that they were such big names in finance that they would take that little plane from, and these two bicycle makers and put their money in it. They must have had an idea that that was really going to be worth something.

WS Well, there was a young fellow in New York who sold them on that idea. And he evidently was close to the New York investment people so he got them from transportation and he got them from this that and the other areas. To put their money into this project. And so far as I can see, the way they went at it they really expected to have a monopoly. And they, of course, were quite instrumental in fighting any attempt on the part of Glenn Curtiss to advance aviation independently of them. And much of the litigation was promoted by this group who had bought the patent and set up the business. I have often wondered, maybe some day I'll find the answer to it, but it looks to me as if the Wrights got into that thing and once they were in they couldn't get out. Wilbur died then, and finally Orville just sold out to that group.

SB Did you find where he felt uncomfortable with those, with that group?

WS Well, I don't know whether it <sup>was</sup> a case of his being uncomfortable with them, or whether it was just a case of his feeling that manufacturing was out of his line. I'm inclined to think that it was probably the latter. That he, he didn't have any yen for manufacturing, that there were other people who could do that. For he expressed on one occasion that he'd like to go back to his laboratory and build <sup>+</sup> another funnel. Which was one of these, you know where they used air, to test...

SB Air tunnel?

WS ...the wind tunnel as they called it. He referred to it as a funnel at one time. He'd like to go back to the laboratory and settle in and do experimental work. That was the thing that he was interested in. In solving aerodynamic problems and not making airplanes. So he got out of it altogether. But of course that struggle between the Wrights on the one hand and Glenn Curtiss on the other, really held aviation back in this country for a decade, that litigation. We were way behind. We were the low men on the totem pole when World War I broke out. And the government simply stepped in and brought the Curtiss interest and the Wright interest and others together and figuratively cracked their heads together and said, now we're going to have a patent pool here. We can't, we can't let this thing go on. We've got to build airplanes and we can't be constantly annoyed by this struggle among you people, so we'll have the patent pool. The Wrights got three million dollars, Glenn Curtiss got two million dollars for him, and the government had full use of the patents.

SB Oh, the government paid the Wrights three million?

WS Sure.

SB Yes, I didn't know that.

WS They...

SB Well, do you think that maybe all the fuss the Wrights didn't really go along with all this litigation, but that they just had to back it up because they were part of the group? I mean that they...(unintelligible)

WS Well, I suspect that, I can't say that categorically but I think that's what happened. That they were in, they were involved in that, They had sold their patents. They had received, as I recall, forty percent of the stock in the company, and they had been given a guarantee of royalty on every plane produced, so they were part and parcel of that situation. And they, they

couldn't very well back out of it. But I can't go beyond that. But that seems to be the situation.

SB Yes, about how many planes a year did that company produce?

WS I don't know that.

SB Up to 1915.

WS They, the Wright Airplane Company, you see, was out of business before World, that is so far as Dayton was concerned, before World War I. That was moved east after they sold their interests.

SB Well he sold out, let's see. Orville sold out in 1915 as I recall. When he finally, originally he...

WS No, it was before then, because World War I broke out in 1914. And...

SB Well our part of it, didn't, I mean, we didn't, we didn't...

WS Well, we, that's right, that's right, we didn't get in until '17.

SB 1917.

WS I guess maybe your figure is right there, that he didn't, that they held on until around 1915, before they sold the plant.

SB Yes, I think so. And then, and then of course, back. Now in World War I the outfit that, that worked down at South Field, that used the Wright name also. That Kettering was part of, what did they call that?

WS Well, that was the Dayton-Wright Airplane Company.

SB Dayton-Wright Airplane Company.

WS And that was an independent organization, founded under the stimulus of Colonel Deeds, and that involved Harold Talbott and Harold Talbott Jr., Charles F. Kettering, Orville Wright; they're the ones who founded that company to produce airplanes.

SB Now was that under the office of General Motors?

WS No. General Motors came along and bought it after the war.



SB Oh, after the war.

WS But at that time it was set up to produce in mass production lines, airplanes which had never been produced that way before. And that's one reason why they got into so much difficulty, because they were trying to do something that hadn't been done before and naturally under great pressure, time was a big factor. (chuckles) They couldn't produce the planes at the speed that the public had been led to believe and eventually it got them into difficulties. But it was a tremendous success for that particular time. They put out a good plane. It was aerodynamically good design. Of course they borrowed it from England. It was the old English DeHavilland plane. But it had an all-American engine in it, and Orville Wright felt that it was a good plane. And I'm sure he wouldn't have said that if he hadn't thought it was. What ever else he was or wasn't, he was certainly forthright.

SB Always said what he thought.

WS Exactly, you might not like what he's thinking. And you might not like the way he said it, but you could be reasonably sure that that's the way he felt about it.

SB I've never come across anyone who knew if they went to church, do you recall?

WS I have found nowhere any evidence that they ever went to church. Now maybe they did, but if so, I haven't been able to put my finger on it.

SB I wondered too. Because they seemed to have had, they obviously had church training with their father. Did you ever find, who influenced them the most, their mother or their father?

WS Well, I haven't any reason to make a categorical reply. But I suspect that from the standpoint of their actual working with their hands that they got it from their mother. Because she was mechanically inclined. She apparently fixed anything that needed to be fixed around the house. And she could make her own clothes. And there's lots of evidence that their mother was handy

with tools. As they were. And that in a sense is one reason for their success. Because they had the feel of this thing. They had made with their own hands every part and parcel of that plane. Which as it appears to me, gave them an advantage that so many others didn't have. For instance Langley's Aerodrome. Langley figured this thing out, and then had somebody build it for him. And then it didn't succeed in flying, till later modifications were made. But Langley didn't have the feel of that. He didn't do anything to actually put the thing together. But here are two young men who made every piece that went into that thing. And they knew it from stem to stern. That must have been a tremendous advantage.

SB Guess they could take it apart and put it back together again.

WS I'm sure they could have done it in their sleep. From the standpoint of their principles of rectitude, I suppose they got that from their father. They must have had tremendous respect for him. But I think there's another phase of their lives that you don't hear much about. That is that they had talents other than just mechanical. For instance Wilbur expressed at one time the thought that he'd like to become a teacher, and felt that he could become a successful teacher. He probably could have. And I guess you know that as a boy, Orville and some neighborhood kids set up a little printing shop and put out a little neighborhood newspaper. I presume if those two fellows had gone off to college and received college education they might have turned up one of them a teacher and the other one a newspaperman. Communicating to the world a lot of information about aviation, but never doing anything to produce an airplane. What a tragedy that would have been.

SB Yes, that's right.

WS So as I look upon them, while they didn't have formal education as scientists or engineers, they had all the education they needed for the purpose of doing the research and experiment, or experiments incident to the development

of a successful plane. And they had that peculiar tenacity of purpose once they set their hand to anything. They didn't let up until they succeeded. Which is a tremendous thing. Not many people have that. But they had it.

SB That's for sure. I wondered, Wilbur was in the original company. Wilbur was part of the executive, but Orville was not. Did you find anywhere where there, there was a difference in the branch of business ability between the two of them. Was the older, was that naturally that the older brother would be part of the executive group, or of course after Wilbur died, Orville was moved into it.

WS Well, the men I've talked with, men who knew them quite well in those days, have told me that Wilbur was the more practical minded one. He knew better how to put salt on the tail of an idea than Orville did. Wilbur being the older one, I presume, and having that practical slant on things, he became the president of the company. One of the men said, we called him old eagle eyes, they said he could go to New York on one of these trips, come back home, come into the shop and look around and in five minutes know what had been going on all the time he was away.

SB You think that he was more of the brains of the two, or...?

WS I don't know, I don't think that would be quite fair to say. Probably Bishop Wright had them sized up pretty well, that it was a fifty-fifty proposition. That what one lacked the other one seemed to possess. My own judgement would be that neither one would have carried their airplane interest to fruition without the other. That it was that constant criticism of each other, constant stimulating of each other. For you must realize, as I'm sure you do, that without the backing of people with money, they had to do most of this in their heads. So they built airplanes in their heads, and tore them down and rebuilt them. This thing went on all the time. One man said, they were flying all



the time. They didn't have much interest in anything else. Just this business, once they got their hooks into it, just took up all their time.

SB Do you think they were ever worried about the moral implications of the plane?

WS No, no. I think they were quite surprised at the speed of its development and the applications. In the early days of course they thought it would make war impossible. And they said so.

SB What did, when, where, where did they say that? I mean I'm, I'm interested. Whom did they say that to?

WS Well, I don't, will you shut that off, and I'll go into...

SB Okay.

(break in tape)

SB Alright, now we're recording again.

WS We've said before that Orville was interested primarily in aviation, airplanes, all that pertained thereto. But I found one man who had seen Orville in a little different situation. We've said that Orville didn't like to make speeches and that in general was true, but on one occasion he was talking to a small group of people and in the midst of his talk he pulled from his coat pocket, a sheet of paper which hadn't been folded. And he began making a paper airplane. Now that's the more interesting in view of the recent contest they had in New York, you may have read about that, in which various people including our former Daytonian Fred Hooven participated, and Hooven came off with one of the top prize of a paper airplane, that we usually think of as something that a boy makes. Well, Orville Wright stood before this group talking and this is the story I get from J.H. Hunt who was a Delco product engineer in Dayton for many years. Hunt said he was present at that meeting and he watched Orville, listened to his talk, and he said, Orville didn't describe what he was doing, but he was talking about



aviation and as he talked, he folded this plane, or this paper into a little airplane. And when he got it perfected, he tossed it across the room and it sailed perfectly and came down on the floor. Then he picked it up and turned up one wing and threw it again, and it went into a spin and crashed to the floor. Orville by that little act demonstrated what happens to planes, in varying circumstances and he illustrated his point. Now Hunt said, and I think Hunt was right, that Orville must have folded up a lot of paper before he got to the place where he could do that so quickly, and apparently so confidently. And when he finished his little paper plane and tossed it just flew across the room perfectly and settled down to the floor. And when he twisted one to the wings a little bit it went haywire. That to me was an interesting sidelight on Orville Wright and his interest in getting other people to see what was so perfectly obvious to him.

SB He just had to be right.

WS But I think we can't make too much of the fact that those two boys were a team, and that they were complementary and supplementary in their relationship, and that one would put up an idea and the other one would criticize it, and maybe before they got through with their arguing they were completely reversed in their positions. They just scrapped it out together. And therefore it was a team product, and I doubt very much if either of them could have done it alone, or would have tried to do it alone. Now, as it has been said, that their sister helped them financially, that isn't true. She didn't help them financially, but when they got discouraged, Orville one time came back from Kitty Hawk, North Carolina and said man couldn't be flying for a thousand years. He was so low in his mind. When they got into that state, it was Katharine Wright who came along and gave them a pat on the back,

keep on boys, you're on the right road, and apparently that made a lot of sense to them, and Orville said one time, when the history of our success is written, Katharine must be included. And somebody else called her the little sister of aviation, which I like very much, I think she was. But she didn't contribute to their success financially. In fact there was very little financial in it. It was mostly brains, and scrap materials when you get right down to it, that's about what it amounted to.

SB I know a lot of people had that idea that she very definitely kept them going, even after they had sold the first plane to the government for thirty thousand. They still seem to think that the thing was not a financial success. And that Katharine kept them going.

WS Of course it wasn't a financial success until they could get somebody to buy the patent. The thing really didn't jell in the public mind until Wilbur took that plane and went to France. This country had not become excited about the Wrights' achievement. We had people by the hundreds seeing them fly out at Huffman Prairie, out there near Simms Station as it was called. And yet they wouldn't believe what they saw. It was just a stunt, like somebody flying a box kite apparently, well that's a nice trick, but so what. But when Wilbur went to France and at LeMans and later at Pau, flew so successfully and just took the French by storm, and won a sizable prize, he became a hero overnight in the minds of his fellow countrymen. And of course while that was going on, Orville was down at Fr. Myers, Virginia, flying that little plane for the benefit of the government, and had reasonable success, with one exception. That was that crack up in which Selfridge, Lieutenant Selfridge was killed, and General Foulois if you ever get to talk with him, will tell you the story about he rode with Orville Wright on that final test, when they flew the plane down around Alexandria, and came back to Ft. Myers. It was the final test

before the government put its name on the contract.

SB The Wrights in one of the books, said they didn't particularly like Selfridge, of course this was, they wrote this long before the accident happened, and they felt terrible afterwards. Did they feel, because Selfridge had written them, was that the reason they didn't like him?

WS I don't know anything about that; you're the first one I have ever heard mention that.

SB Well, I'm just quoting from....Wilbur wrote to, they liked Foulouis immediately and Wilbur, or...

WS And apparently liked Lieutenant Lahm.

SB Yes, very much. But for some reason or another they didn't, somehow, there was a personality conflict, and of course Selfridge had written them early, in one of the early letters. And whether they felt, I just wondered, whether they felt that he had been trying to get information from them that was later used by Curtiss; there was that, that one letter. It is quoted quite often, about what the center of pressure, he inquired.

WS I can't say that. Of course, they knew where the center of pressure would be in varying circumstances, by reason of their wind tunnel experiments. No one else had done that. That was the key to their success, because they knew from experiments what was what. And they had a great advantage over others who were pursuing more or less trial and error method. And I think that's the key to their success, and instead of going to Kitty Hawk and just by...  
(break in tape)

(end of side two)

(start of side three)

WS Tested it out in the wind tunnel, or tested them out in the wind tunnel and built up their pressure tables accordingly. They knew what they were doing.



So they did, in a relatively short time, what men who just working by guess and by trial and error weren't able to do. They knew that this thing would, would fly; they knew that before they tried.

SB In other words they had to have, they had to have this much pressure equal this much pressure and the thing would fly.

WS Sure.

SB And then they could go...

WS Or, or, Wilbur said it one time at a meeting of the engineers in Chicago, the Western Society of Engineers. He said that this is a simple matter, to keep an airplane in the air. He said, all you have to do is keep the center of pressure and the center of gravity in about the same place and of course that sounds simple enough but how to do that. They knew how to do that, by reason of their scientific tests with these little airfoils.. Little airplanes...

(break in tape)

WS ...He used in, in the wind tunnel. And here today, we're still using that method. These planes that we're building, they're all subjected to wind tunnel tests. So they did it before anybody else. Now they didn't build the first wind tunnel, there's a sometimes said that they did. They built the first wind tunnel in this country. But British experimenters had to have a wind tunnel as early as around 1870. Now whether...

(break in tape)

WS ....the Wrights knew about that, I've never been able to find out, but they built the first, and used the first wind tunnel, and as a result, they stepped out way ahead of anybody else.

SB Do you feel that the ailerons later on really did come close to their basic ideas?



- WS Yes, in the sense that it was a matter of having something on the wing that you could change, either the wing itself, by warping or angle it.
- SB I have, how did those wings work? I still haven't gotten it.
- WS Well, they had to be somewhat flexible for them to do that.
- SB Well, I was going back to this moral whether they had any, whether they worried about morally. When I talked to Mr. William Huffman, whose father, Torrence Huffman, he said that he remembers his father asking Wilbur what the use of the plane would be, and Wilbur said just one word, war. And in the original design, now I've talked to other people that Orville in his later years expressed concern because the plane was used for war. And I just wondered if you had ever found anything of that nature?
- WS Well, the things that I have found would lead me to say in the earlier years they thought of the airplane as being a prevention....
- SB Of war.
- WS Rather than a promotion of war. That their plane would make war more or less impossible that with the ability of the enemy to fly over your territory and know all about you.
- SB Of course they did, well they did plan to sell the airplane to anyone who would buy it though, America's potential enemies as well as their friends. They were going to sell it to Germany.
- WS Well, surely and you can understand how that would come about, because they weren't clear how the airplane was going to be used, but they were quite clear in that they weren't getting anywhere at home. And in as much as our government was seemingly not interested, well they took it overseas. And they got an immediate response there. It took us a long while to wake up to what we really had in this country. And really not until World War I did we

do anything about it. We weren't prepared as we should have been with aircraft in World War I. when we entered that in 1917. We didn't have anything in the way of aircraft. We didn't have anybody who had ever flown a war plane. We were, in other words, we were at the bottom of the list in the development of aviation, which seems incredible in view of the fact that it had been invented here. And right here in our own city we had the two men more responsible than anybody else for the success of the airplane.

SB In his later years, did Mr. Wright ever attend any organizations that, other than aeronautical organizations? Do you remember as a newspaperman?

WS No, I don't recall any. He seemingly steered away from all kinds of public gatherings, unless it had to do something, had something to do with aviation. He wasn't a joiner; he wasn't a man who liked to be among crowds.

SB Did he take care of his own finances, or do you know if he had a broker or someone who handled his business affairs, or did he do it himself?

WS Well, I'm under the impression that he got a great deal of help from Colonel Deeds on that. Colonel Deeds was close to him. And Colonel Deeds of course was a first class businessman. My impression is that he gave Orville a good deal of help in the matter of his investments, and carrying out his financial affairs. But I don't think that Orville was wanting in a financial sense. He was a pretty shrewd duck. He was thrifty; he didn't throw his money around.

SB No, he obviously didn't. Of course that was a different time, but people who worked for him. He wasn't the type of boss that if you had a family problem and you needed money that you could approach for a loan.

WS No, No. You just wouldn't do that. I don't think you would go up to him and slap him on the back and say how are you Orville? You wouldn't think of doing that.

(break in tape)

SB He just wasn't...

WS He was not a convivial kind of person. He was not disposed to be what we call sociable. Yet I think he liked companionship. But he had a distance, very few people, as far as I can see, ever got close to the man.

SB Who was close to him, other than you say Colonel Deeds, and Kettering?

WS Colonel Deeds.

SB Or was Kettering close to him? Kettering obviously, they had a mutual respect, from working together. Who else was among his close friends?

WS I wish I knew that.

SB There just doesn't seem to be very many people.

WS So far as I can see, he was not disposed to think or associate with other people on any intimate fashion. Professionally yes, but he was a loner in so far as he was personally concerned. According to such observations as I have made.

SB I have never found anyone who knew what he liked to read; that sometimes tells something about a man. But even though he worked on the library board, or he was on the library board out there, it seemed to be difficult to find what he particularly liked to read.

WS Well, I think your answer to that is if it had something to do with aviation, why he was interested. But more and more, aviation was his life.

SB And yet he didn't work actively in it. He didn't go to Washington, and plead for the airmail service.

WS Oh, no, no. No, no he didn't lend himself to that kind of thing at all. But he was always working on some scheme to promote actual, practical aviation.

SB Well, after he developed the landing flaps, or he and Mr. Jacobs, developed that, what was the next project that he worked on? Do you if he had, have any, specific ones?



- WS No, I don't know of anyone after that. He was interested in instruments, developing instruments, and said at one time, that there were two things that aviation needed. One was an instrument to help an aviator land, say in a fog. Well, of course we have that now. And another thing was that for a plane to take off without having to make such a long run.
- SB About what time, about when did he say this, do you have any...
- WS Oh, don't ask me that, I don't know when he said that. That was well along after World War I. When he was working in his laboratory.
- SB I mean other than the landing flap idea, I haven't seen able to find what else came out of the laboratory, that what he actually, what he, what practical application...
- WS I don't think there was a great deal that come out of the laboratory.
- SB He and Mr. Jacobs did patent the landing gear.
- WS Oh, yes.
- SB And I don't even know when that was, I'll have to find that out.
- WS There again, I would say if his brother had lived and they had been able to go on testing their ideas with each other, they doubtless would have pushed aviation ahead much faster. But after Wilbur died, he had to go it alone.
- SB Do you think that he just got all eaten up with his frustration over the Smithsonian that perhaps that kept down his productivity, or has that been overplayed?
- WS Oh, it's probably been overplayed, but that was only one of his frustrations, what I call his emotional jams. He apparently had a deep dislike for Curtiss and felt that Curtiss was trying to horn in on and take advantage of what he and Wilbur had pioneered.



SB What were his other emotional jams?

WS Well, I didn't know him intimately enough to say what his other emotional jams were, but I don't know how anybody could have been as tense as he was without having considerable emotional stress and strain. Maybe that's possible, but he just struck me as a man who was on fire inside and like a volcano it might explode someday. And it would have been a beautiful sight if it had, but it, of course, it never happened.. I'd like to have been around when that happened.

SB Do you think that he would have come off, with some, had been a better person if he had exploded now and then?

WS Yes, I do. I think he would have been, I think he would have; life would have been easier for him.

SB Think he was happy in his older years?

WS I doubt it. I doubt that he was. I saw evidence of it. Lord, how I'd like to have seen him laugh.

SB Mr. Kohnop said that when they had the meeting of the library board, after the meetings, that he would sit there and talk and he would talk at great lengths in a rather amusing fashion. But that before he'd talk he would specify that nothing was to be published, and it was not for print, and in a very close group like that, and that he had kind of a subtle sense of humor. And...

WS I don't think there's any question about it that he had that. But it was, for the most part, it was bottled up and it was kept away from everybody. Well, I think I've told you all that I have any right to tell you.

(break in tape)

(end of tape)

## INDEX

- Accidents, 14, 24  
Airplanes, DeHavilland 19  
Airplanes, Langley, 20  
Alexandria, Va., 24  
  
Bicycle shop, 13  
Buffalo, N.Y., 7  
  
Cape Cod, 15  
Chicago, Ill., 26  
Curtiss, Glenn, 7, 16, 17, 30  
  
Dayton-Wright Airplane Co.,  
    1, 3, 4, 18, 19  
Deeds, Edward A., 4, 5, 18, 28, 29  
Delco, 22  
  
Flights, exhibition, 14, 15  
Flint, investor, 16  
Ford, Henry, 9  
Fort Myer, Va., 24  
Foulois, Lt. Benjamin D., 24, 25  
France, 5, 9, 24  
  
General Motors, 18  
Germany, 27  
  
Hall, Alice, 8  
Hawthorn Hill, 8  
Hoover, Fred, 22  
Huffman, Torrence, 5, 6, 27  
Huffman, William, 27  
Huffman Prairie, 15, 24  
Hunt, J.H., 22, 23  
  
Jacobs, James, Sr., 30  
  
Kansas, 8  
Kettering, Charles F., 18, 29  
    character, 2-3, 4  
    on the Wright Brothers, 6  
Kitty Hawk, N.C., 5, 23, 25  
  
Knight, Bill, 5  
Kohnop, Max, 31  
  
Lahm, Lt. Frank P., 25  
Langley, Samuel P., 6, 20  
LeMans, France, 24  
  
McCook Field, 1  
Materials used;  
    cloth for airplanes, 4  
Military use of airplane, 27  
Miller, Ivonette Wright, 11  
Missouri, 8  
Moorehouse, 4  
  
New Era Gas Engine Plant, 13  
New York, 16, 22  
  
Parmelee, Phil O., 14  
Patents, 17  
Pau, France, 24  
Public's attitude toward  
    Wrights, 5, 6, 7, 24, 27  
Purdue University, 13, 14  
  
Roosevelt, Franklin D., 12  
  
Schoonmaker, Jay, 3  
Seattle, Wash., 14  
Selfridge, Lt. Thomas E., 24, 25  
Simms Station, 24  
Smithsonian Institution, 30  
South Field, 4  
  
Tacoma, Wash., 14  
Talbott, Harold, 18  
Talbott, Harold, Jr., 18  
Taylor, Charlie, 6  
Turpin, James Clifford, 13, 14-15  
  
Vanderbilt, 16  
  
Washington, D.C., 3, 29  
Western Society of Engineers, 26

Wind tunnel, 16-17, 25, 26  
 Wings, 26-27  
 World War I, 1, 9, 17, 18,  
     27, 28, 30  
 World War II, 1  
 Wright, Katharine, 7-8,  
     23-24  
 Wright, Rev. Milton, 19,  
     20, 21  
 Wright, Mrs. Milton, 19-20  
 Wright, Orville  
     character, 2, 3, 4, 5,  
     7-8, 13, 14, 17, 19,  
     21, 22-23, 28-29, 30, 31  
     childhood, 20

Wright, Orville (cont.)  
     political views, 9-11, 12  
     mentioned, 15, 16, 18, 24  
 Wright, Wilbur  
     character, 5, 20, 21  
     mentioned, 2, 7, 13, 16,  
     24, 26, 27, 30  
 Wright Brothers  
     character, 6-7, 20-22,  
     23, 25-26  
     on uses of airplane, 22, 27  
     mentioned, 1, 17  
 The Wright Co., 15-16, 18  
 Wright laboratory, 16-17, 30  
 Wright Patterson Air Force Base, 6